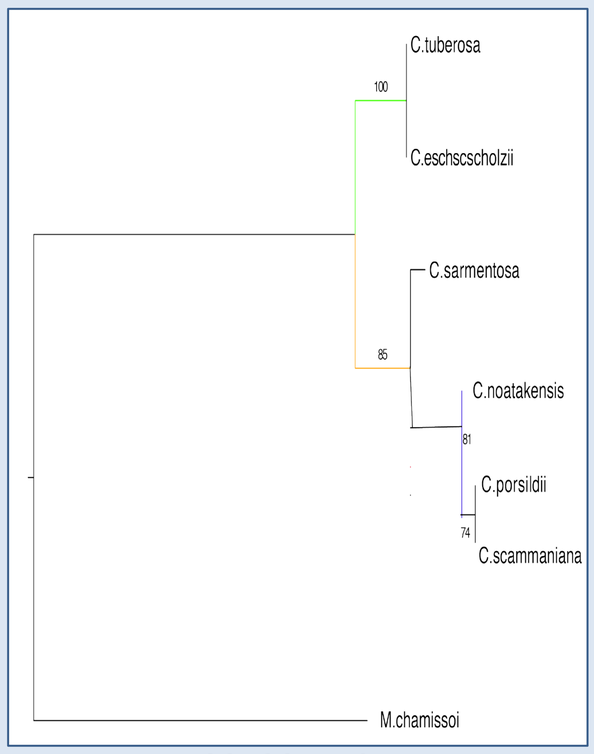
Genetic differences of the genus *Claytonia L.* in Noatak, Alaska

Ryanne Braselton, Mentor: Stephany Jeffers ,
PI: Steffi Ickert Bond
Rural Alaska Honors Institute,
University of Alaska, Fairbanks

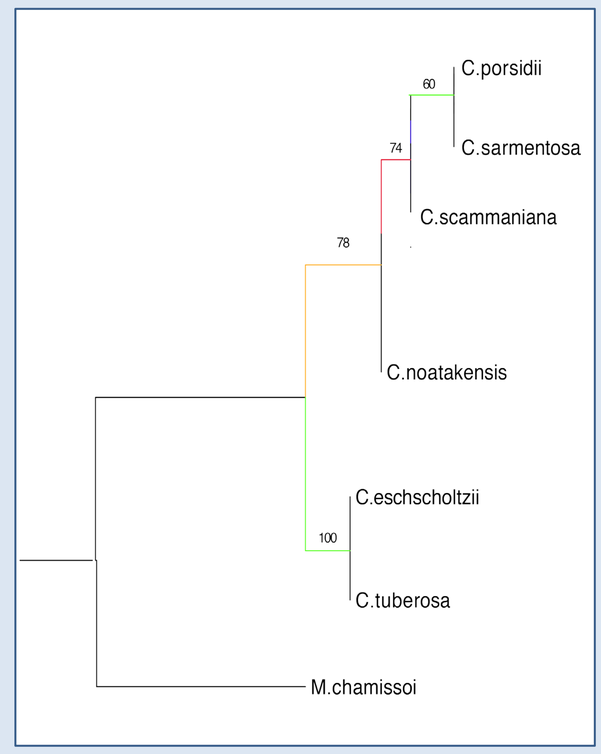
Introduction

Claytonia is a pretty flower found around Alaska. *Claytonia's* species can be difficult to identify, due to morphological and genetic differences, leading to disagreements on how many species there really are. In this project our goal is to sort through different species to bring resolution to *Claytonia's* family tree. While also determining if a species of C. scammaniana found in Noatak National Preserve is in fact a putative species, C. noatakensis .

Results

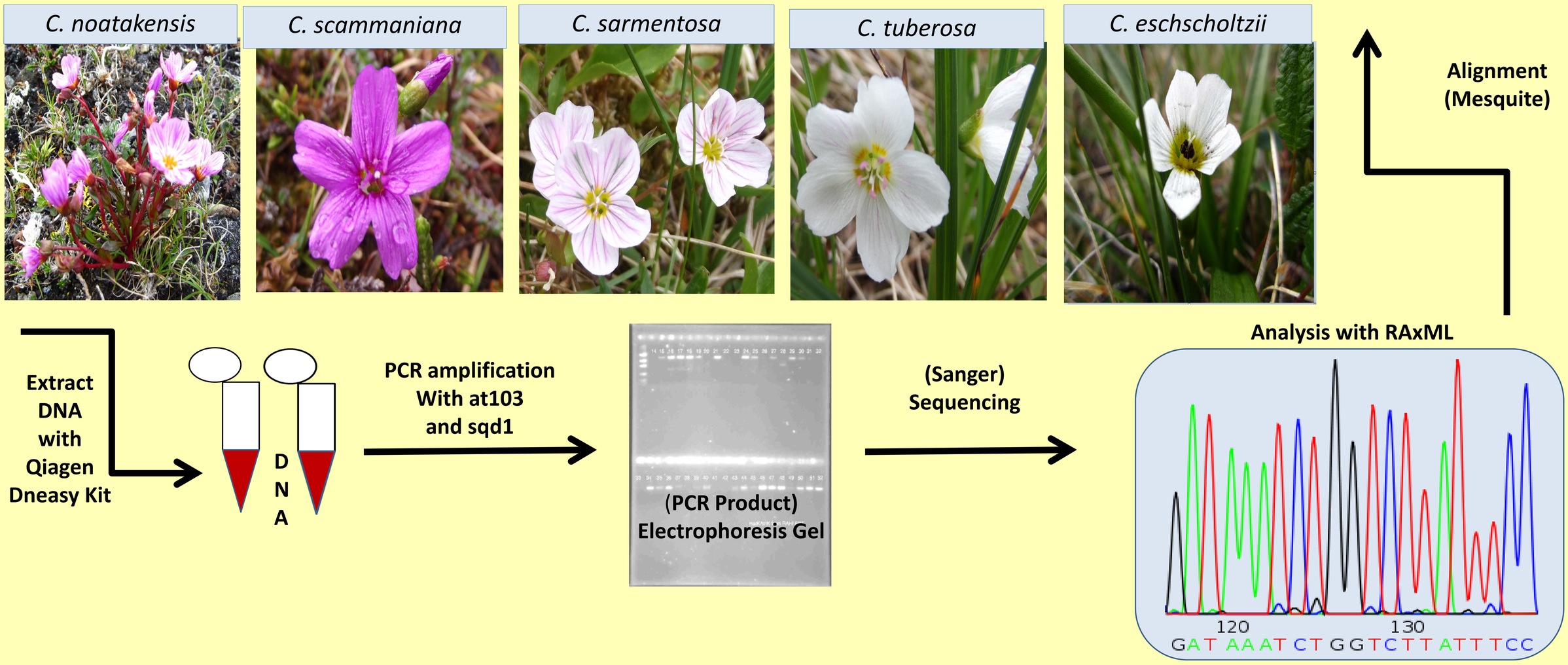


Maximum likelihood tree using at103 with bootstrap values.



Maximum likelihood tree using sqd1 with bootstrap values

Materials & Methods



Discussion

Phylogenetic trees sqd1 and at103 provided different results for the same DNA samples. These trees also showed how putative *C. noatakensis* consistently showed up separated from other members of the clade. The relationship of C. noatakensis to other species of claytonia remains unknown. In tree at103, the placement of C. noatakensis reflects its similarities to C. sarmentosa and C. scammaniana. While in tree sqd1, C. noatakensis is separated from the clade (C. sarmentosa, C. scammaniana, and C. porsildii) by its most recent common ancestor. Until more data is collected and sequencing conducted *C. noatakensis* remains *C. scammaniana*.

"This publication was funded by the National Center for Research Resources and the Division of Program Coordination, Planning, and Strategic Initiatives of the National Institutes of Health through grant number 8R25D011159-5."